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ABSTRACT

This study was designed to compare the toy/activity preferences of a group of young children, as measured by traditional procedures, with their spontaneous toy/activity choices as they occur during unstructured periods of free play. Participants in the study included fifty-seven 4-year-old children enrolled in three half-day nursery school programs. All children received the Concealed It version of Brown's It Scale for Children. During free play sessions in the nursery school classes, the spontaneous activities of each child were observed using point-time sampling procedures. For each observation, either the target child's activity (in 27 predetermined categories) or the sex of each peer with whom the child interacted was recorded. For purposes of analysis, each of the activity categories was given a Masculine/Feminine rating (1=most feminine, 5=most masculine). Three activity scores were calculated for each child: Sex-Typed Score, Masculine Activity Score and Feminine Activity Score. The observed percentage of interactions involving same sex peers was calculated as well as the percentage that would have been expected if same sex peer interaction had occurred randomly. Results indicated that there were no significant correlations between scores on the Concealed It and any of the observational measures, or between Concealed It scores and same sex playmate preference. Significant sex differences were found in the Concealed It score, the Sex-Typed Score, and the time spent in masculine and feminine activities. Both sexes interacted with same sex peers significantly more than would have been expected by chance. (Author/RH)

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SEX-ROLE PREFERENCE: WHAT ARE WE MEASURING?

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SEX-ROLE PREFERENCE: WHAT ARE WE MEASURING?[1]

In investigations of sex-role development in young children, the major techniques for looking at sex-role preference have involved toy-preference tests. Among these tests, the most widely used have been Brown's It Scale for Children (ITSC, Brown, 1956) and, more recently, Sher and Lansky's Concealed It Scale for Children (1968). However, serious questions have been raised concerning the interpretation of children's responses to these tests as measures of sex-role preference (Britain, Note 1). For example, a particularly strong set of arguments, based on critiques of the manner in which these tests are administered, suggests that children's responses to such measures may more accurately indicate their knowledge of traditional sex roles rather than their actual sex-role preference. Procedures for administration of the tests--the child is involved in a one-to-one interview with an adult, and choices are limited to the selection of either a highly stereotyped masculine toy or a highly stereotyped feminine toy--certainly suggest the possibility of the influence of a social desirability factor (Hartup, Moore, & Sager, 1963; Edelbrock & Sugawara, 1978).

Given the many questions concerning the interpretation of children's responses on the traditional toy-preference measures, the present study was designed to compare the toy/activity preferences of a group of young children as measured by these traditional procedures with their spontaneous toy/activity choices as they occur during unstructured periods of free-play--periods of play during which a wide range of toys (masculine, feminine and neutral) is available and the salience of an adult is minimized.

If, in fact, children's responses to the traditional toy-preference measures do not reflect their spontaneous play behavior, serious questions must be raised concerning the interpretation of such scores as measures of sex-role preference.

METHODS

Sample.-- Participants in the study included 57 four-year-old children, 31 boys (mean age 55 months) and 26 girls (mean age 53 months), enrolled in three half-day nursery school programs located in a semi-rural section of Eastern Connecticut. Two groups (A and B) were university laboratory classes. One class (C) was a parent cooperative located in the university community. Parents of the children were primarily professionals or graduate students.

Procedure.--All children received the Concealed It version of Brown's It Scale for Children (Sher & Lansky, 1968). Procedures for administration followed those described by Sher & Lansky. During free-play sessions in the nursery school classes, the spontaneous activities of each child were observed using point-time sampling procedures (Altmann, 1974). For each observation, the target child's activity (27 predetermined categories) or the sex of each peer with whom the child interacted were recorded.[2]

For each group, the free-play period was divided into standardized time blocks. Within each of these time blocks, the observer, using a predetermined random order, completed one observation of each child in the class. In classes B and C, two sets of observations were completed. During the initial set of observations, the observer recorded the sex of the target child's playmates. During the second set, the activity of each child was recorded. Within class A, these two sets of observations were conducted simultaneously. The mean number of activity observations per child was 63 (range 18 to 120).

The mean number of playmate observations was 64 (range 18 to 127). Observations were conducted by two sets of observers. Observations of class A were divided between members of the first set. Observations of classes B and C were divided between members of the second set. Observer agreement was monitored on a regular basis throughout the study. On each day of simultaneous observation, observer agreement (number of agreements divided by number of agreements plus disagreements) was .90 or higher for both activity and sex of playmates for both sets of observers.

Analysis.--For purposes of analysis, each of the activity categories received a masculine/feminine rating. These ratings[3], ranging from 1 (most feminine) to 5 (most masculine) were based on the consistency with which significant sex differences have been reported in both observational studies (e.g., Brown, 1957; DeLucia, 1972; Laosa & Brophy, 1972). A detailed outline of this literature review and the rating procedure are available from the authors.

Based on the observational data, three activity scores were calculated for each child: 1) Sex-Typed Score (sum across activities of the percent of time the child spent in each activity multiplied by the Masculine-Feminine rating of the activity; 2) Masculine Activity Score (percent of observations during which the child was engaged in an activity with a Masculine-Feminine rating of 4 or 5); and 3) Feminine Activity Score (percent of observations during which the child was engaged in an activity with a Masculine-Feminine rating of 1 or 2). In addition, for each child, the observed percent of interactions involving same-sex peers was calculated, as well as the expected percent (i.e., the percent of interactions that would have involved same-sex peers if selection of playmates had occured on a random basis. In order to

normalize the distribution of scores calculated as proportions, all proportions were transformed using the arcsine transformation (Cohen & Cohen, 1975). Pearson product moment correlations were used to assess the relationship between scores on the Concealed It and the observational measures. In addition, z-tests of proportion (Ferguson, 1966) were tabulated to assess sex differences in the percent of time spent in each of the activity categories.

RESULTS

Assessing the relationship between children's scores on the Concealed It and their observed toy/activity preferences, results of this study indicated that for both the boys as a group and the girls as a group there were no significant correlations between scores on the Concealed It and any of the observational measures of toy/activity preference, or between scores on the Concealed It and a preference for playmates of the same sex[4]. These findings are particularly interesting in light of the significant sex differences which were found in both the Concealed It interview and observed measures of toy/activity preference.

Consistent with the findings of previous studies using various forms of the ITSC, significant sex differences were found in scores on the Concealed It (boys $\bar{x}$ = 62.45, girls $\bar{x}$ = 30.81, t (55) = 5.98, $p < .001$). Significant differences were also found on the Sex-Typed Score (boys $\bar{x}$ = 3.22, girls $\bar{x}$ = 2.89, t (55) = 4.19, $p < .001$; in the time spent in "masculine" activities (boys $\bar{x}$ = 33%, girls $\bar{x}$ = 22%, t (55) = 4.32, $p < .001$); and in the time spent in "feminine" activities (boys $\bar{x}$ = 21%, girls $\bar{x}$ =

28%, t (55) = -2.93, $p < .005$). In addition, both boys and girls interacted with same-sex peers significantly more that would have been expected by chance (boys: observed = 83%, expected = 52% $z = 15.5$, $p < .001$; girls: observed = 64% expected = 44%, $z = 6.78$, $p < .001$).

Replicating findings of previous ovservational studies of toy preference (Fagot & Patterson, 1979; Fagot, 1974), boys spent significantly more time than girls playing with cares, $z = 7.17$, $p < .001$; and sand, $z = 6.40$, $p < .001$; girls spent significantly more time playing with art materials $z = 5.52$, $p < .001$. In contrast, no sex differences were found in the amount of time spent in the traditionally "masculine" areas of woodworking, blocks or large motor activities or the traditionally "feminine" activities of easel painting, dolls, housekeeping, clay or small manipulatives. However, in terms of traditionally neurtal activities, boys spent more time in waterplay, $z = 5.01$, $p < .001$, and playing with puppets, $z = 4.84$, $p < .001$; girls spent more time cooking, $z = 5.26$, $p < .001$, and playing with lanquage games, $z = 2.49$, $p < .05$.

DISCUSSION

Data from the observational measures of toy/activity preference clearly replicated scores on the Concealed It in terms of finding significant sex differences in preferences for particular types of toys and activities. However, although both sets of scores clearly differentiate between the sexes for any particular child, his/her score on the Concealed It in no way indicated the degree to which the child's spontaneous play choices were any more or less stereotyped than the choices of other children of the same sex. For both the boys as a group and the girls as a group, scores on the Concealed

It had little predictive value in terms of providing information on the degree to which the child's spontaneous play, evaluated in terms of toys, activities and sex of playmates, would reflect sex-stereotyped behaviors.

The inconsistent results obtained in using these two types of measures certainly suggest that in indicating their preferences for play with particular types of toys or activities the choices of young children are strongly influenced by situational factors. For example, it has been clearly demonstrated (Edelbrock & Sugawara, 1978) that children's responses on measures of sex-role preference are influenced by sex of the experimenter. In addition, with only sex-typed alternatives available, forced-choice testing procedures may, very early in the testing situation, lead a child to necessarily label a concealed figure as male or female. Once this gender attribution is made, a child's toy and activity selections may be more a reflection of his/her knowledge of sex roles than of actual preference. Based on this premise, both Britain (Note 1) and Brush, Gold & Sprotzer (Note 2) have recently argued for the inclusion of neutral choices in measures of sex-role preference. In contrast, while children's responses to toy preference measures might be influenced by the one-to-one interview situation and the limited number of choices available, their spontaneous choices made during free-play might well be influenced by peer reinforcements (Fagot & Patterson, 1969).

In summary, results of this study indicate that except for predicting group differences between males and females, extreme caution must be taken in generalizing across alternative measures of toy preference. Furthermore, these inconsistencies also indicate that the interpretation of scores on the Concealed It or on any other isolated measure of toy preference, (including the observational measures used in this study) as global measures of sex-

role preference are quite inappropriate. Rather, the authors emphasize the importance of incorporating both behavioral observations and more clinical interview procedures in any future investigations of sex-role preference in young children.

FOOTNOTES

1. The authors would like to thank the children, parents and staff of The University of Connecticut Child Development Laboratories, Vincent Ward and Janet Chisholm, Head Teachers; and the Mansfield Preschool Parents' Association, Harriet Brubacher, Head Teacher, for their co-operation. We would also like to thank Margaret Fidrych, Rodrigo de Urioste, Karen Ahern and Cynthia Farrell for serving as classroom observers and Donald Pingrey for assistance with data analysis. Requests for reprints or additional information should be sent to:

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2. Relationships which involved one or more of the following behaviors were coded as interactions: eye contact, physical contact, verbal exchanges, moving together, or reciprocal involvement in a mutual project.

3. Activities with strong masculine ratings (5) included blocks, cars, and large motor activities. Activities with moderate masculine ratings (4) included sandplay, and woodworking. Activities with strong feminine ratings (1) included arts and crafts, easel painting, dolls, house. Activities with moderate feminine ratings (2) included clay, and small manipulatives. Neutral activities (3) included books, cooking, crying, dramatic (not house) language games, music, on-looking, puppets, routines (wash hands, etc.), science, talking/vocalizing (unaccompanied by other activity), transitions, unoccupied, waterplay, and with teacher.

4. While for the combined sample of boys and girls significant correlations were found between scores on the Concealed It and the observed measures of toy activity preference, with sex partialed out, none of these correlations reached significance. Consequently, separate analysis are reported for the boys as a group and the girls as a group.

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